

REMARKS

Claims 1-34 are pending. Claims 1-5, 19-21, 25-26, and 29-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,337,681 to Martin. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 5,812,274 to Inuzuka et al. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 6,456,319 to Hirasawa et al. Claims 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 6,441,807 to Yamaguchi. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 5,604,418 to Filo. Claims 13, 22-24, and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin in view of U.S. Patent No. 4,952,051 to Lovell et al. Claims 11, 14-18, and 27-28 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reconsideration is requested. No new matter is added. The rejections are traversed. Claims 2, 20, 29, and 30 are amended. Claims 35-42 are added. Claims 1, 19, and 31 are canceled. Claims 2-18, 20-30, and 32-42 remain in the case for consideration.

Claims 35-37 and 40-41 are claims 11, 14-15, 18, and 27 rewritten in independent form, including all of the limitations of the base claim and any intervening claims. As the Examiner has indicated that claims 11, 14-18, and 27-28 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, claims 35-42 should be allowable.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Referring to claim 2, the invention is directed toward a drawing tablet. The drawing tablet has a translucent surface. An imaging sensor mounted below the translucent surface is designed to capture an image on the surface, even if the image is occluded from above.

Referring to claim 20, the invention is directed toward a method for using a drawing tablet. An image is captured from beneath a translucent surface of the drawing tablet, so that no objects on the surface of the drawing tablet are occluded from below. The image is transmitted to a computer, and processed for display on a monitor.

Referring to claim 29, the invention is directed toward an article. The article includes a storage medium storing instructions. The instructions receive an image captured from a surface of a drawing tablet. The image is captured from beneath a translucent surface so that

no portion of the surface of the drawing tablet is occluded from below. The image is modified and displayed.

In contrast, Martin teaches an interactive displaying system. A touch sensitive surface senses pressure applied to the surface. As pressure is applied, control signals are generated. A computer receives the control signals and generates images. A liquid crystal display (LCD) panel and an overhead projector project the graphic images onto the surface.

All three of claims 2, 20, and 29 describe the invention as capturing an image, and doing so even if the image is occluded from above. Martin does not teach either of these concepts.

First, Martin is most explicit that it captures pressure. This fact is first stated in the title of Martin: "Projection Display System with *Pressure Sensing* at Screen . . ." (emphasis added). This fact is stated again in the first line of the Abstract: "An interactive display system comprising a *touch sensitive display surface for sensing pressure applied thereto . . .*" (emphasis added). This concept is repeated numerous times throughout the specification in Martin.

That Martin only captures pressure, and not images, from the surface is intuitive from the problem Martin was designed to address. Martin addresses the problem of sharing graphical data across multiple geographically separated locations, where each site can interact with the graphical data. The LCD panel and overhead projector project an image onto the surface of the touch sensitive display. This image is generated by the computer. This fact can be inferred from column 1, lines 50-52, and repeated at column 2, lines 14-16, of Martin, which says that other applications are running on the computer. Since the LCD panel and overhead projector project an image generated by the computer, the starting point for the image displayed on the display surface in Martin is the screen as it appears with the applications running on the computer.

Users at each site interact with the image by pressing appropriately on the display surface. For example, if a user wants to circle a portion of the display, the user can press the display surface and trace the circle. The surface translates the pressure and movement into the control signals, which the computer then interprets as a circle drawn around the appropriate portion of the display. The updated image, reflecting the circle, is then displayed on the surface using the LCD panel and the overhead projector, and also transmitted to the other sites.

First, Martin does not teach the surface of the drawing tablet being translucent. "Translucent" is a word meaning "permitting the passage of light." Were the surface of

Martin to be translucent, then the image from the LCD panel and overhead projector would be shown on surfaces on the other side of the display, not on the surface of the display. This would be distracting to users, and limit the usefulness of the shared images. Thus, not only does Martin fail to disclose using a translucent surface, using a translucent surface would be contrary to the implicit teaching of Martin.

Second, Martin does not teach or suggest anywhere that an imaging sensor captures the *image* on the display surface. The closest Martin comes to suggesting this is in column 1, lines 32-40, where Martin talks about the prior art using colored markers on a touch sensitive surface. But this is not sensing an image: this is sensing pressure in combination with some way to capture *what* is causing the pressure. This requires specialized markers that can identify themselves to the sensor, so that the device knows what color marker is being used. If a pre-generated image where to be placed on the surface, or even if something other than the specialized markers were to be used on the surface, the device would have no way to capture the image.

This leads into the second difference between Martin and the invention: the ability to address occlusion in the image. Because the image is projected onto the surface using the overhead projector, anytime a user positions himself between the projector the surface (for example, to circle a portion of the display), the user occludes part of the image. This makes it hard for the user to be certain what he is doing. The invention addresses this problem by providing that the image be captured even if occluded.

Occlusion is discussed on page 3, lines 12-15 of the invention. As described at that part of the specification, the invention avoids occlusion by capturing the lower image instead of the upper image. As discussed above, Martin does not capture an image on the surface. But if Martin did capture an image (something the Applicant disputes), Martin would have to capture the image projected on the surface by the overhead projector. If the user were to interpose himself between the surface and the projector, the user would block part of the projection, which would mean that part of the image as it might be captured would be occluded. Thus, Martin cannot teach capturing an image even if the image is occluded.

The invention as defined by claim 2 is directed toward:

A drawing tablet comprising:

a translucent surface; and

an imaging sensor mounted below the surface, the imaging sensor designed to capture an image on the surface even if the image is occluded from above.

(claim 2; italics added). As these features are not taught or suggested by Martin, claim 2 is patentable under 35 U.S.C. § 103(a) over Martin. Accordingly, claims 2-18 are allowable.

The invention as defined by claim 20 is directed toward:

A method for using a drawing tablet, the method comprising:

capturing an image from beneath a translucent surface of the drawing tablet so that no objects on the surface of the drawing tablet are occluded from below;
transmitting the captured image to a computer; and
processing the captured image on the computer for display on a monitor.

(claim 20; italics added). As these features are not taught or suggested by Martin, claim 20 is patentable under 35 U.S.C. § 103(a) over Martin. Accordingly, claims 20-28 are allowable.

The invention as defined by claim 29 is directed toward:

An article comprising:

a storage medium, said storage medium having stored thereon instructions, that, when executed by a computing device, result in:

receiving an image captured from beneath a translucent surface of a drawing tablet, the image captured in a manner such that no portion of the surface of the drawing tablet is occluded from below;
modifying the received image; and
displaying the modified image.

(claim 29; italics added). As these features are not taught or suggested by Martin, claim 29 is patentable under 35 U.S.C. § 103(a) over Martin. Accordingly, claims 29-34 are allowable.

Applicant respectfully submits that each of the Examiner's rejections has been overcome and that this Application is in condition for allowance. Such is respectfully requested.

If any questions remain, please call the undersigned.



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PATENT TRADEMARK OFFICE

Respectfully submitted,

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